

# Physics 12 Outline

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Web site: <http://physics-pages.wikispaces.com/>

Text: [Physics, Principles with Applications](#), third edition, Douglas C. Giancoli

Labs: [Physics 12 Student Laboratory Manual](#), Ron Somers

Topic	Pre-reading in Text	Binder Index of Student Notes and Homework	Labs
<b>Introduction</b>	<b>Chapters 1</b>	<b>Fill in Page Numbers</b>	
What is Physics?	p1-6		
Scientific Measurement	p7-12		Oscillating Spring
<b>Kinematics (describing motion).</b>	<b>Chapters 2 and 3</b>		
Velocity, time and acceleration	p16-34		
Vectors	p43-52		Investigation 3
Projectiles	53-59		Investigation 1
<b>Dynamics in 2 Dimensions</b>	<b>Chapter 4</b>		
Newton's Laws	p65-72		
Vector Forces	p74-89		Block on Slope
<b>Circular Motion and Gravitation</b>	<b>Chapter 5</b>		
Circular Motion	p97-100		Investigation 5
Gravitation	p106-114		Investigation 6
Gravitational Energy	Not in Text		
<b>Work and Energy</b>	<b>Chapter 6</b>		
2-D Work	p124-128		
Forms of Energy	p129-134		
Conservation of Energy	p135-140		Roller Coaster
Power	p141,142		Kettle
<b>Momentum</b>	<b>Chapter 7</b>		
Newton's Second Law Revisited	p149-155		
Conservation of Momentum	p156-160		Investigation 2
Centre of Mass	p161-166		
<b>Rotational Equilibrium</b>	<b>Chapters 8 and 9</b>		
Torque	p178-180		Jack
Statics	p205-211ws		Investigation 4
<b>Electrostatics</b>	<b>Chapters 16 and 17</b>		
Electric Charge	p416-419		
Coulomb's Law	p420-430		Investigation 7

Electric Potential (Voltage)	p440-443		Investigation 8
Point Charge	p445-446		
<b>Electric Currents</b>	<b>Chapters 18 and 19</b>		
Battery and Current	p459-462		
Ohm's Law	p463-464		Resistivity
Electric Power	P468-470		
Kichoff's Rules	485		
Resistors	480		Investigation 9
Terminal Voltage	p481-483		
<b>Electromagnetism</b>	<b>Chapters 20 and 21</b>		
Magnetic Fields	p505-506		
Magnetism is Caused by Moving Charge	p507-510		
Magnetic Force	p511-514		Investigation 10
Applications	p516-523		
Ampere's Law	P524-527		Investigation 11 or 12
Induction	p538-543		
Back Emf	p546		Investigation 13
Transformers	p547-549		

Marks will be awarded as follows: up to 10% for informal demonstrations of physics knowledge and attitudes (participation) and homework/binder checks, up to 25% for laboratory reports, up to 10% for quizzes and up to 65% for tests. Any student who copies or lets another student copy test or laboratory work will result in a 0 on that paper. Late assignments will be assessed a 20% penalty per class if not submitted at the start of class on the due date.

Class mark/Final exam: 80%/20%

Copies of old provincial exams with answer keys can be found on the ministry website at:

<http://www.bced.gov.bc.ca/exams/search/> or from Mr. Klaassen's website at: <http://physics-pages.wikispaces.com/Physics+12>

### **Expectations:**

Students must attend and fully participate in all classes. When absent, a signed note from a parent or guardian is required. Students missing tests or quizzes will receive a 0. Late students will be reported to the administration. Calculators used for games, cell phones, whiteout and mp3 players will be confiscated.

Have a one inch binder for physics and keep it organized. This handout should be at the front and all homework and notes should be kept in order with page numbers listed for binder checks. Each term, there is a maximum of 2 incomplete homework assignments for the binder check. After that each incomplete assignment will result in a 0.5% loss of marks up to 5 % per term.

Students are expected to bring their own text and supply a sturdy cover, their lab manual, a three ring binder, a large supply of paper and a scientific calculator. Graph paper can be bought at a stationary store, printed out using a table or borrowed and photocopied.

To help students help each other and to send reminders, I have a web page (<http://physics-pages.wikispaces.com/>) join code RNKKNNC and a work [facebook](#) page.(adam klaassen teach) Feel free to post questions(better than messaging) and answers as I will give credit to students who help each other. Do not leave problems to the last minute, as you may not receive an immediate response. Students who help others in class and through posts will be awarded participation marks.



(Watterson, Bill <http://www.ucomics.com/calvinandhobbes/index.phtml>)